cons but they were very shy and we could not get near enough to identify them, much less shoot them.

Both this species and the Duck Hawk have been recorded, as taken and found breeding, at various points not far distant, and it is fair to assume that both species occur here on migration and a few may breed here. Probably they are more common along the banks of the Saskatchewan River where they can find suitable nesting sites.

75. **Falco richardsonii.** RICHARDSON'S MERLIN.— Rare. I shot an adult male near Hay Creek on June 1, 1905, and Dr. Bishop and Dr. Dwight secured an adult female on July 17, 1906, about 15 miles north of Maple Creek. Two or three others, supposed to be this species, were seen elsewhere. Prof. Macoun gives several records of its breeding in this region.

76. **Falco sparverius.** AMERICAN SPARROW HAWK.— Common in the timber along the creeks in 1905, but less common in 1906. We found 6 nests in 1905 and only one in 1906. Nests with eggs were found on May 30 and June 5 and 14, 1905, and on June 30, 1906. The nests were mostly in natural cavities in the box elders but some of them were in old Flickers' holes. Both sexes incubate.

The birds that we collected were all in worn breeding plumage and were referable to *phalœna*, but I doubt if this subspecies is worthy of recognition.

(*To be concluded.*)

## FURTHER NOTES FROM EXTREME SOUTHERN ILLINOIS.

BY JOHN F. FERRY.

THE extreme southern end of Illinois was visited by the writer from August 10–24 inclusive to carry on an ornithological investigation for the Field Museum of Natural History, Chicago. The region studied is included in the Austroriparian Faunal Area of Dr. Merriam. The heat and humidity are extreme and a corresponding luxuriance of vegetation is the result.[1] The birds were found in greatest abundance in the deep woods bordering Cypress Swamps. Dense thickets bordering roads and fields were also favorite haunts, though during the intense heat of mid-day these were deserted for the cooler shade of the woods. Generally speak-

[1] For list of characteristic trees and shrubs of this region see Auk, Vol, XXIV, July 1907, p. 285.

ing, birds were surprisingly scarce. A few of the commoner varieties were met in great abundance, *i. e.*, Cardinals, Tufted Titmice, Northern Yellow-throats, Field Sparrows and Indigo Buntings, but often the woods seemed entirely deserted. The birds as a rule were moulting and very ragged in appearance. Young birds of the year were much commoner than the adults. The time in the field was spent as follows: Olive Branch, Aug. 10–17; Mound City, Aug. 18–22; Grand Chain, Aug. 23–24, all inclusive. When a bird is said to be "common," etc., and no locality is mentioned, the status thus given refers to its abundance in the general locality here discussed.

Through the courtesy of the U. S. Weather Bureau at Cairo, I am able to give the daily conditions of the weather.

*Statement of Weather at Cairo, Ill.*

| | Temperature. | | | Wind. | | | State of Weather. | |
|---|---|---|---|---|---|---|---|---|
| Aug. 1907 | Maximum. | Minimum. | Precipitation. | Prevailing direction of wind. | Total daily movement. | Highest daily velocity. | Character of day. | Percentage of cloudiness. |
| 10 | 91 | 74 | .23 | E | 140 | 18 | Clear | 20 |
| 11 | 91 | 74 | 0 | E | 87 | 7 | Clear | 0 |
| 12 | 84 | 69 | .79 | N E | 180 | 24 | Pt. Cloudy | 60 |
| 13 | 83 | 66 | 0 | N E | 239 | 18 | Clear | 10 |
| 14 | 88 | 68 | T | N E | 180 | 18 | Clear | 30 |
| 15 | 86 | 71 | T | S | 179 | 12 | Pt. Cloudy | 60 |
| 16 | 88 | 74 | T | S W | 207 | 15 | Pt. Cloudy | 70 |
| 17 | 82 | 70 | .15 | N E | 198 | 29 | Cloudy | 90 |
| 18 | 86 | 66 | 0 | N E | 94 | 7 | Clear | 10 |
| 19 | 89 | 71 | 0 | S | 123 | 10 | Clear | 20 |
| 20 | 82 | 73 | T | N | 162 | 16 | Cloudy | 90 |
| 21 | 73 | 65 | .02 | N E | 219 | 18 | Cloudy | 100 |
| 22 | 73 | 64 | T | N E | 120 | 10 | Cloudy | 100 |
| 23 | 82 | 68 | .17 | S W | 161 | 17 | Cloudy | 90 |
| 24 | 88 | 73 | T | N | 154 | 18 | Pt. Cloudy | 60 |

1. **Aix sponsa**. Wood Duck.— Breeding abundantly in Horse-shoe Lake, a body of water in Cypress Swamp near Olive Branch. The young of the year greatly predominated over the adults. Of four specimens all were ♀ jv. They feed near the borders of the cypress in threes and fours, and were not wary.

2. **Ardea herodias**. Great Blue Heron.— Common about Horse Shoe Lake, and few seen at Mound City.

3. **Butorides virescens.** GREEN HERON.— Common at Olive Branch, Mound City and Grand Chain. Called here "Injun Hen."

4. **Nycticorax nycticorax nævius.** BLACK-CROWNED NIGHT HERON.— One seen at Horse Shoe Lake.

5. **Helodromas solitarius.** SOLITARY SANDPIPER.— One seen at Horse Shoe Lake.

6. **Actitis macularia.** SPOTTED SANDPIPER.— Two seen at Mound City.

7. **Oxyechus vociferus.** KILLDEER.— Two seen at Olive Branch.

8. **Colinus virginianus.** BOBWHITE.— Abundant at Olive Branch, where young varying from the size of an English Sparrow up to the size of adults were seen. The birds were frequently met in flocks of ten to fifteen. Bobwhites were common at the other places visited.

9. **Zenaidura macroura.** MOURNING DOVE.— Abundant in all places visited.

10. **Cathartes aura.** TURKEY VULTURE.— Common everywhere in this region.

11. **Accipiter cooperi.** COOPER'S HAWK.— One seen at Olive Branch.

12. **Buteo borealis.** RED-TAILED HAWK?— Several large hawks that could not be positively identified were referred to this species.

13. **Buteo lineatus.** RED-SHOULDERED HAWK.— A young bird shot at Grand Chain.

14. **Falco sparverius.** SPARROW HAWK.— One or two seen at each place visited.

15. **Syrnium varium.** BARRED OWL.— Abundant about Horse Shoe Lake. Frequently flushed in day time and all night its *who-whoo-too whoo-whoo* would come booming out of the Cypress Swamp.

16. **Coccyzus americanus.** YELLOW-BILLED CUCKOO.— One taken. Cuckoos were frequently seen and heard, and possibly some of them were the Black-billed Cuckoo.

17. **Ceryle alcyon.** BELTED KINGFISHER.— Tolerably common at Horse Shoe Lake. One seen at Mound City.

18. **Dryobates villosus.** HAIRY WOODPECKER.— Tolerably common throughout the locality. Three specimens taken in August and one in February are intermediate between *villosus* and *v. auduboni.* They are nearer *auduboni* in size but in coloration they favor *villosus.*

19. **Dryobates pubescens medianus.** NORTHERN DOWNY WOODPECKER. — Abundant everywhere. Specimens taken in summer and winter are decidedly nearer *p. medianus* than *p. pubescens,* though they average smaller than northern Illinois birds. The average length (in millimeters) of wing of specimens from three different localities is given here: Florida and Louisiana, 87; Southern Illinois, 91; Northern Illinois and Connecticut, 92.

20. **Ceophlœus pileatus abieticola.** NORTHERN PILEATED WOODPECKER. — One seen at Olive Branch. Local hunters report these birds tolerably common in southern Illinois. They are extremely wary.

21. **Melanerpes erythrocephalus.** RED-HEADED WOODPECKER.— Common.

22. **Centurus carolinus.** RED-BELLIED WOODPECKER.— Abundant at Olive Branch. Common elsewhere. They were feeding on choke-cherries.

23. **Colaptes auratus luteus.** NORTHERN FLICKER.— Tolerably common.

24. **Chætura pelagica.** CHIMNEY SWIFT.— Common.

25. **Trochilus colubris.** RUBY-THROATED HUMMINGBIRD.— Profusely abundant at Olive Branch and common elsewhere.

26. **Tyrannus tyrannus.** KINGBIRD.— Common.

27. **Myiarchus crinitus.** GREAT-CRESTED FLYCATCHER.— Common.

28. **Sayornis phœbe.** PHŒBE.— Tolerably common at Olive Branch.

29. **Contopus virens.** WOOD PEWEE.— Abundant.

30. **Empidonax** sp. A little flycatcher of unknown identity was tolerably common at Olive Branch.

31. **Cyanocitta cristata.** BLUE JAY.— Rare at Olive Branch; common elsewhere.

32. **Corvus brachyrhynchos.** AMERICAN CROW.— Abundant.

33. **Agelaius phœniceus.** RED-WINGED BLACKBIRD.— Abundant at Olive Branch. The females and immature birds outnumbered the full-plumaged males about 15 to 1. Common at Mound City and Grand Chain.

34. **Sturnella magna.** MEADOWLARK.— Common at Olive Branch and Grand Chain. In the former place they spend the heat of the day in the dense fields of hog-weed which grows up to a man's shoulders.

35. **Icterus spurius.** ORCHARD ORIOLE.— Two seen at Olive Branch.

36. **Icterus galbula.** BALTIMORE ORIOLE.— Tolerably common at Mound City; one seen at Grand Chain.

37. **Quiscalus quiscula æneus.** BRONZED GRACKLE.— Common at Olive Branch and Mound City.

38. **Astragalinus tristis.** AMERICAN GOLDFINCH.— Common.

39. **Coturniculus sandwichensis passerinus.** GRASSHOPPER SPARROW. — One male in worn plumage taken at Olive Branch.

40. **Spizella pusilla.** FIELD SPARROW.— Profusely abundant.

41. **Pipilo erythrophthalmus.** TOWHEE.— One seen at Olive Branch and Grand Chain.

42. **Cardinalis cardinalis.** CARDINAL.— Abundant.

43. **Cyanospiza cyanea.** INDIGO BUNTING.— Profusely abundant. Moulting.

44. **Spiza americana.** DICKCISSEL.— Common at Mound City.

45. **Piranga erythromelas.** SCARLET TANAGER.— One taken at Mound City.

46. **Progne subis.** PURPLE MARTIN.— Common.

47. **Petrochelidon lunifrons.** CLIFF SWALLOW.— Common at Olive Branch and Grand Chain.

48. **Riparia riparia.** BANK SWALLOW.— Common at Olive Branch and Mound City.

49. **Lanius ludovicianus migrans.** MIGRANT SHRIKE.— Several Shrikes seen at Mound City and Olive Branch are tentatively referred to this species.

60. **Vireo olivaceus.** RED-EYED VIREO.— Common. Moulting and mostly immature birds.

61. **Vireo noveboracensis.** WHITE-EYED VIREO.— The most characteristic bird of the thickets bordering the woods. It has a very pleasing and unique song. It is a rolling trill, with a flute-like quality. While listening to the song I wrote it thus: *Twe-wa-ra, ra-re-ra.*

62. **Mniotilta varia.** BLACK AND WHITE WARBLER.— Common. Both adult and immature birds taken. They were found in deep woods.

63. **Protonotaria citrea.** PROTHONOTARY WARBLER.— Abundant. All young birds had the fully adult plumage.

64. **Compsothlypis americana ramalinæ.** WESTERN PARULA WARBLER. — These birds were tolérably common at Mound City. They kept to the tree tops in the river bottoms and in company with Cerulean Warblers. Three specimens, including immature as well as a fully plumaged adult, are typical of this subspecies. I believe that a considerable portion of the small flitting forms high up in the trees were of this species. Several times the faint, insect-like trill *za-ze-za, zee-zee* of this bird was heard.

65. **Dendroica æstiva.** YELLOW WARBLER.— Two young birds seen at Olive Branch on the 11th.

66. **Dendroica cærulea.** CERULEAN WARBLER.— One taken at Olive Branch in dense timber. It was abundant in the cottonwood and willow bottoms along the Ohio at Mound City. Small bands of them were found flitting about the tree tops, betraying their presence with their faint lisping notes, or by occasional snatches of their song. The latter may be represented thus: *whee-ta-te, zee-ee-e-e-e.*

67. **Seiurus motacilla.** LOUISIANA WATER-THRUSH.— Two seen at Olive Branch. One taken.

68. **Oporornis formosa.** KENTUCKY WARBLER.— One taken at Olive Branch, 3 at Mound City. Two were taken at one shot at the latter place. The adult was feeding the immature bird, though the offspring was as large as the parent.

69. **Geothlypis trichas brachidactyla.**— NORTHERN YELLOW-THROAT.— These birds were everywhere profusely abundant and their sharp 'chip,' sounded from nearly every thicket and weed patch. Very few adult males were seen and most of the birds taken were moulting.

70. **Icteria virens.** YELLOW-BREASTED CHAT.— These shy birds were tolerably common at Olive Branch and 3 were seen at Mound City. They inhabited the densest thickets.

71. **Wilsonia mitrata.** HOODED WARBLER.— One taken along Cache Creek, near Mound City.

72. **Setophaga ruticilla.** REDSTART.— Tolerably common. Only 3 adult males were seen, the rest were immature or females.

73. **Mimus polyglottos.** MOCKINGBIRD.— Abundant at Grand Chain, but inexplicably absent from other localities visited.

74. **Galeoscoptes carolinensis.** Catbird.— Tolerably common; moulting.

75. **Thryothorus ludovicianus.** Carolina Wren.— Abundant. In song.

76. **Certhia familiaris americana.** Brown Creeper.— A single specimen of this bird was seen at Olive Branch on Aug. 11 creeping along trunks of cypress and tupelo trees.

78. **Sitta carolinensis.** White-bellied Nuthatch.— Common.

79. **Bæolophus bicolor.** Tufted Titmouse.— Abundant. Many young and moulting birds seen.

80. **Penthestes carolinensis.** Carolina Chickadee.— Abundant in small bands.

81. **Polioptila cærulea.** Blue-gray Gnatcatcher.— Tolerably common. Young birds predominated.

82. **Hylocichla mustelina.** Wood Thrush.— Common. Singing at Olive Branch.

83. **Sialia sialis.** Bluebird.— Tolerably common.

## GENERAL NOTES.

**The Kittiwake and Purple Sandpiper again in Maine in Summer.**— In 'The Auk' for July, 1907 (Vol. XXIV, p. 337) the capture of a Kittiwake in 1903 on the coast of Maine in summer was recorded. On July 14, 1907, while at Jordans Rock, a submerged ledge one mile S. E. by E. of Portland Head Light, a Kittiwake (*Rissa tridactyla*) flew over my boat within easy range. The small size of the bird, white head, and short black legs and feet were distinctly and critically observed as it passed over. It flew toward Grundys Reef until it disappeared.

In the 'Journal of the Maine Ornithological Society,' Vol. VI, p. 16, the capture of a specimen of the Purple Sandpiper (*Arquatella maritima*) at Metinic, Me., on August 11, 1902, was recorded. On August 6, 1907, while on Metinic Green Island, I saw another specimen of this bird. It stood on a large rock (behind which the greater part of my body must have been concealed from it), within three yards of me. I observed it critically, then tried to catch it; it flew readily, but showed the flight feathers to be faded and worn, and nearly ready to be moulted. Its tameness was in part due, I believe, to the drenching rain which was falling.— Arthur H. Norton, *Portland, Me.*

**That Cinnamon Teal Record from Florida.**— Unfortunately for Mr. William Brewster's theory of no reliable records for this species from the Southeastern States, my former note in 'The Auk' of a specimen from

Lake Iamonia, Florida, is indisputable. The specimen is an adult male in nuptial plumage and is now in the Museum of the Academy of Natural Sciences, Philadelphia. The gentleman who shot the bird and the taxidermist who mounted it in Philadelphia are known to us here. I examined it freshly skinned.— S. N. Rhoads, *Haddonfield, N. J.*

**The Snowy Heron in Camden County, N. J.**— On July 16, 1904, I saw a fine adult Snowy Heron (*Egretta candidissima*) near Delair, Camden County, N. J., feeding with an immature Black-crowned Night Heron on the Pea Shore Flats of the Delaware River. It allowed us to approach quite close in our boat and reluctantly took wing as we rowed in closer and closer, preceded by the more wary Squauks, and both birds flew into a small grove of trees on the shore.

This is the first authentic record of the occurrence of the Snowy Heron in the Delaware Valley in recent years, and as the bird was well seen at a distance of less than fifty feet there can be no doubt as to the correctness of my identification. I am positive of it, and would inform the incredulous who may be inclined to think that the bird I saw was an immature Little Blue Heron (*Florida cærulea*), that I am well acquainted with the distinguishing marks of the two species and recognized the bird at once as the Snowy Heron. Furthermore, I have been hunting for this bird for several years, but only to run across one without a firearm of any sort. Hard luck, truly, but this seems to be a frequent misfortune of mine, possibly because I am not of a collector of skins and seldom carry a gun, for I have on several occasions stumbled upon rare birds and wished in vain for a gun.

A few words regarding the status of the Snowy Heron in the Delaware Valley will not be amiss in this connection. In Stone's 'Birds of Eastern Pennsylvania and New Jersey' it is given as a "straggler from the South" (page 63); and yet Chapman, in his 'Handbook,' says it breeds as far north as Long Island. This is a rather singular statement in these days, although it may have bred there formerly. However, now it is a rare transient everywhere north of 39° north latitude at least.

Evans in his excellent paper on 'The Unusual Flight of White Herons in 1902' (see 'Cassinia' for 1902, page 15) does not mention a capture or a record of the Snowy Heron, nor are there any subsequent records. The Snowy Heron, then, can rightly be regarded as a "rare straggler" in the Delaware Valley, at least.— Richard F. Miller, *Harrowgate, Philadelphia, Pa.*

**American Coot** (*Fulica americana*) **Nesting near Newark, New Jersey.**— In 'The Auk,' XXIV, pp. 1–11, I recorded the nesting of the Pied-billed Grebe (*Podilymbus podiceps*) and the Florida Gallinule (*Gallinula galeata*) in the marshes near Newark, N. J.; also, the presence in the same marshes of the American Coot, although no nest of this species was discovered. On May 30, 1907, I visited the same marsh area in company with Messrs. J. P. Callender, P. B. Philipp, R. H. Southard, and T. F. Wilcox — all

members of the Linnæan Society of New York. I am pleased to record that a nest of the American Coot containing eight eggs was discovered by Mr. Wilcox, thus establishing this bird as a nesting species within seven miles of New York City Hall.

In other respects conditions in the marsh-bird colony were found to be much the same this year as those described in the above mentioned article. — Clinton G. Abbott, *New York City.*

**The Stilt Sandpiper in Massachusetts.** — While looking over the 'General Notes,' in the July issue of 'The Auk' I noticed a reference to the Stilt Sandpiper (*Micropalama himantopus*) in Massachusetts. I think the rarity of this species in this State has been greatly exaggerated in this note.

On September 20, 1903, while gunning at Chatham with a friend, a flock of about a dozen Stilt Sandpipers flew over us, and we each secured a pair. Since then both my brother and myself have seen numbers of these birds in the big market in Boston, which were shot along the south shore in the vicinity of Chatham and Monomoy.

Thus it seems to me that the Stilt Sandpiper is not so rare in Massachusetts as Mr. Nash believes and states it to be. I would like to hear from other Massachusetts men in regard to the prevalence of the Stilt Sandpiper in this State.— Winthrop S. Brooks, *Milton, Mass.*

**The Buff-breasted Sandpiper** (*Tryngites subruficollis*) **on Long Island, N. Y.**— Owing to the infrequent occurrence of this species on the Atlantic coast, I wish to record a young male in my collection taken at Rockaway Beach on Sept. 11, 1906.— J. A. Weber, *New York City.*

**American Goshawk** (*Accipiter atricapillus*) **versus Man and Barred Owl.** — Two incidents, illustrating at once the ferocity and the "lack of judgment," so to say, of the Goshawk, have lately come to the writer's notice. About May 15, 1905, Mr. Ferdinand Lack, a farmer of Germanicus, Renfrew County, Ontario, had occasion to go into an old, little visited pasture on his farm, lying along an extensive piece of woods. Suddenly a large hawk swooped down upon him, flew around his head in most threatening and uncomfortable proximity, at the same time striking at him with wings and claws, as if it wanted to arrest his progress. In this the hawk was successful, the man could not proceed. The next day the farmer wanted to resume his interrupted inspection of the pasture, and thinking that the experience of the day before would probably remain unique, took no weapon of any kind along. But the same thing happened again. He had to turn back again, as he could hardly dodge the vicious onslaughts of the bird. The inspection of the meadow had to remain incompleted again. Once more the farmer sallied forth the following day, but this time in the company of his gun. But even the sight of this did not deter the bird from making his usual assault with the result, of course, that it was speedily put out of commission by a shot from the farmer's gun. He

gave the fine hawk to a friend of the writer, who has taxidermic propensities, when it was identified as the Goshawk. This bird probably had its nest in the woods along the pasture.

A more remarkable instance came to the writer's notice at High Falls, Wright County, Quebec, fifty miles northeast of Ottawa. There, one morning last February, Mr. Hugo Paeseler, a farmer, on going out into the woods adjoining his farm, noticed a space of about ten to fifteen feet square, where the snow had recently been much disturbed, deeply plowed up from some great commotion. That a fierce fight had been going on but a short while before was evident from the liberal quantities of blood sprinkled on the snow and the masses of feathers, single and in whole bunches, lying about and adhering to bushes and trees. On looking around for the principals of the fight, he found about ten feet away in one direction a Goshawk, lying on the snow with wings extended and frozen stiff. About ten feet away from the scene of hostilities, in the opposite direction, he found an owl, more damaged than the hawk, but still warm. It had alighted after the fight on a small spruce and fallen off, as the snow showed, and with its last strength crawled into a small log, lying with its hollow part conveniently near. The farmer took both along home, skinned and "stuffed" — here that term is appropriate — the hawk, and also the head of the owl, which was all he could make use of in her case. When the writer saw them at the farm house, they turned out to be the Barred Owl and the American Goshawk. It must surely have been a battle royal, if one could only have witnessed it. The farmer, quite a shrewd observer, tells me, that the same hawks are there winter and summer, which is, of course, not to be wondered at, the place being right in the Goshawk range. The writer's theory is, that the Goshawk, hungry and ill at ease from the severe cold, while looking for its breakfast, encountered the owl, then peacefully returning from its nightly foraging. In its usual injudiciousness, courage, fierceness, or whatever one may call it, he pounced down upon the owl, which, however, had no desire to be made a meal of, and defended herself so valiantly, that both had no more use for breakfasts.— G. Eifrig, *Ottawa, Ontario.*

**Unusual Occurrence of the Short-eared Owl in Pennsylvania.**— The Short-eared Owl (*Asio accipitrinus*), is a rather frequent migrant and winter resident in this section, occurring in small flocks wherever there is a sufficient abundance of *Microtus*. Here they remain until about the first of April, when they usually wend their way further north. This year, however, was an exception, at least with one pair which I had the fortune to observe.

The first evidence of mating was noticed on March 28, when they were noted sailing about in the dusk, occasionally giving vent to a peculiar call — *whaq*, with a nasal intonation. They were frequently heard during the first ten days of April but no more were seen until April 19, when in crossing a weedy field I flushed a fine specimen and observed it sailing about for some time.

No more was seen of the owls and I had almost forgotten them when about six P. M. on the night of May 28 I was astonished to observe one fly close by our residence, uttering its peculiar call. The next morning I tramped over several miles of suitable fields but could not flush any and none have been observed since.

The bird is so rare about Philadelphia after April 15 that this record seems to demand attention.— Richard C. Harlow, *Edge Hill, Pa.*

**The Breeding of the Short-eared Owl (*Asio accipitrinus*) near Ann Arbor, Michigan.**— The Short-eared Owl is a common migrant in this locality, but although a hunter once told me of finding a nest here I have had no positive proof that it breeds in this vicinity until this summer. On June 26, 1907, there was brought to me three immature specimens of this species, which had been taken in a grassy marsh seven miles south of Ann Arbor. On these birds the down was still present in places, and the wing and tail feathers were only partly out of the sheaths so that only short flights could be made. The collector did not look for the nest, which was no doubt near by. The skin of one of these birds is preserved in the University Museum.— Norman A. Wood, *University Museum, University of Michigan.*

**Mortality among Kingfishers.**— While digging out some Kingfishers' nests this season I was surprised to find a dead bird in about every fourth or fifth hole. This I was at loss to account for, as the birds showed no signs of combat or disease, while the plumage was not even disarranged. The bodies, though, seemed to be dried up, with no signs of blood in them, so I presumed that something had crawled into the holes and sucked the blood from them, leaving the carcass intact. This surmise proved correct, as the last hole I dug out contained a large black snake, and a dead kingfisher still warm. The snake measured about four and a half feet long and had evidently gone in for the eggs, any kind of eggs being readily devoured by this snake in this section. The holes were generally from two to three feet below the top of the bank, so it was an easy matter for them to get down from the top. I found no less than six dead birds within a mile, and if all of the river bank gave the same average, the loss of life must have been great. I am at loss, however, to account for their molesting the kingfishers and not the Rough-winged Swallows, which also nested abundantly in the same bank. Snakes are more numerous this year than ever before.— H. H. Bailey, *Newport News, Va.*

**The American Crossbill in Camden County, Ga.**— On November 12, 1906, I noticed American Crossbills (*Loxia curvirostra minor*) here (Camden County) for the first time. While riding through a pine forest with hardwood underbrush I flushed 15 or 20 from a small open pond where I presume they were getting water. They flew to the tops of the tall pines,

and I watched them for some time feeding on the pine cones. Never having seen the bird in life before, I had some trouble in making out what they were, but at last decided that they were Crossbills. After that I often saw them, and in fact they became quite common, and remained here until the middle of May. I only killed one (an old male) and now have the skin in my collection. Whenever seen they were invariably in the pine trees and never still long at a time.— I. F. Arnow, *St. Marys, Ga.*

**Nesting of Crossbills in Colorado.**— The paper by Rev. P. B. Peabody in the July number of 'The Auk,' on the nesting of the Bendire Crossbill in Wyoming led me to look through the notes of Denis Gale, who spent the years from 1883 to 1893 inclusive in the mountains of Boulder County closely observing our mountain birds. These notes are now owned by the University of Colorado, and have been transcribed, annotated and indexed for convenient reference, forming 278 pages, exclusive of index. I find few references to Crossbills, and only in 1893 are there definite notes of their nesting habits, though under date May 21, 1890, he does say that he saw that day a family of these birds with "young fully grown nearly." All of his references are to the American Crossbill, but doubtless those he saw were *Loxia curvirostra bendirei*, a subspecies likely unknown to him. He was well along in years at that time, and had learned his ornithology at a much earlier period. I extract the following from his notes:

"March 28, [1893] 172 [= Smithsonian Check List No., Bull. 21, U. S. Nat. Mus., 1881]. In this locality saw crossbills to all appearances looking for exact site or having already begun to build, but not in earnest, as I watched them a long time without results."

"March 31. 172. The pair of crossbills noted on the 28th inst. were evidently resting from their labors, having completed their nest building. Now I come to think of it their demeanor said as much. I regret not witnessing the building operation which I believe was wholly undertaken by the female. Locality, a sheltered hillside east of Buckhorn Mountain, on north side of clump of scattered coniferous trees, in pine tree about 18 feet from the ground, saddled on horizontal branch 5 feet from main stem and 4 feet from end of branch, the nest shielded on the weather side by part of another branch from below, and yet immediately underneath the nest could be easily seen, although the site would be easily overlooked, if indeed it would be examined at all, it being in a general way the least likely tree to be selected for nesting, a number of others more sheltered and offering better hiding being at hand. Upon approaching the belt of scattered timber I stood several minutes looking to the center of further edge to see if I could discover the bird carrying building material, in which direction I had supposed the nest site selected from the manner of the birds I had previously watched, instead of which I was within a few feet of the tree the nest was located in. The male suddenly lit upon the top of a tree. At a greater distance no doubt he had seen my intrusion and become alarmed. I saw at once by his anxious manner that he was to be watched,

so I stood still, keeping him in view. In two minutes he flew a little quartering toward me to another tree top, and in less than half a minute flew toward the nest site and when within two feet of it the female joined him and flew off. The apparition of the female led me to examine the location of her exit from the tree, when I plainly saw the nest. Intending to watch matters I walked off 20 or 25 yards and sat down. Upon doing so I saw the male on a twig close to the nest. I did not see the female at all, whom he must have conducted back to the nest. His stay there was momentary. I only had time as I turned around to get a glimpse of him as he flew away. Still of opinion that they were building or completing their nest I waited and watched for nearly two hours and went away intending to return. Upon my return, as before I went away, I struck the tree trunk and some of its lower branches, but the female did not flush. I climbed the tree and discovered the female sitting close. I reached out and rudely shook a spray with two or three pine tassels on it which were immediately over the nest, to no purpose. She trembled but would not fly off until I poked her with my finger. She was covering two eggs. After leaving the nest I watched. It was fully ten minutes from one tree top before she crossed the site to another tree and after two minutes more she again settled on the nest. I did not see the male anywhere about except for an instant, after his unnecessary anxiety gave his mate away. While building the nest I believe, as with some other birds, this species' nest can be located, and in no other way unless given away by the male. Accident brought the male to the nest locality just as I happened to be near the spot, otherwise it was 100 chances to one I had not discovered it."

"April 3. 172. Took nest and 3 eggs to-day. Watched the male feeding female at long intervals, 1½ to 2 hours. He seemed to fly some distance away. Was not present when the nest and eggs were taken. Eggs were covered from the first laying, to prevent their being chilled I presume. The male seemed very devoted to his mate and likewise the female to her nest and eggs. Measurements of nest as follows: 5 in. wide, 2½ in. deep, outside; 1¾ in. deep, 2⅝ in. wide, inside. Dimensions taken on the spot, therefore correct. Composition of nest: Foundation a few twigs, with stiff, strong plant stems, some of the latter stayed through the body or wall in which is felted a few fine grass stems, with much plant fiber, species of wild hemp [?], the same somewhat finer with a few feathers felted in for inside lining, which feels a little harsh. The structure is light but well knit together; warm, without being very dense. Should think it took at least a week to construct. Saddled upon bough 1½ inches thick, well protected by laterals. Eggs slightly incubated. No additional eggs intended. Measurements of eggs: .69 + .44, .70 + .44, .72 + 54 in. ...."

"May 8. 172. At Fred Ehler's and on hillside, Zieman's Gulch, saw young and old birds together feeding on pine seeds, the old birds searching the pine cones."

Although Mr. Gale spent most of his time in the field during the nesting

season these are the only definite notes connected with the nesting of the crossbills in all the 278 pages. I may add that although I spend a little time in the coniferous forests of our mountains up to timber line each year I have never seen any crossbills. Dr. Ridgway, in Part 1 of his new work on 'Birds of North and Middle America,' notes several breeding records of *L. c. bendirei*, published under the names *L. c. americana* and *L. c. mericana*.— JUNIUS HENDERSON, *Boulder, Col.*

**Occurrence of a White-winged Crossbill at Oxen Hill, Md., in August.**— On August 13, 1907, Mr. Ernest Kletsch, of the Department of Agriculture, brought me a White-winged Crossbill (*Loxia leucoptera*) that had been accidentally killed the day previous at Oxen Hill, Maryland, about four or five miles southeast of Washington, D. C. Taken in connection with the record (mentioned elsewhere in these notes by Nelson R. Wood) of a White-throated Sparrow in the grounds of the Smithsonian Institution at about the same time, this occurrence of a northern bird in midsummer in the vicinity of Washington suggested a possibility of special significance, but no further unusual records have come to my attention and I merely mention the incident as a curious instance of irregularity. It would be of interest to know if similar observations were made elsewhere.— HENRY OLDYS, *Washington, D. C.*

**The Vesper Sparrow (*Poœcetes gramineus*) on Long Island, N. Y., in Winter.**— In order to confirm Mr. J. T. Nichols's observation published in 'The Auk,' Vol. XXIV, p. 220, I wish to record four specimens in my collection taken on Feb. 7, 1905, near the northern part of Jamaica Bay, from a flock of these birds found roaming the snow covered fields.— J. A. WEBER, *New York City.*

**A White-throated Sparrow in Washington, D. C., in August.**— On the morning of August 9 a White-throated Sparrow (*Zonotrichia albicollis*) flew down into the grass near where I was sitting and remained in plain view for some time, about fifteen feet from me. It was in moult, as a part of its tail was gone. Wishing other witness to this, I asked Mr. William Palmer to visit the spot. He, too, saw it. The next morning found me, with field glass in hand, again at the place, and to my joy the bird was still there. I called Mr. Oldys, who was passing, and handed him the glass. He also saw and identified the bird. Is it not unusual for this bird to be here in this season, and does it not point to the fact that birds migrate when in moult? — NELSON R. WOOD, *Washington, D. C.*

**Nesting of the Rose-breasted Grosbeak in Philadelphia County, Pa.**— The Rose-breasted Grosbeak (*Zamelodia ludoviciana*) was formerly regarded as a migrant of transient occurrence in the Lower Delaware Valley (see Stone's 'Birds of Eastern Pennsylvania and New Jersey,' page 6), and not until late years was it found to be a summer resident of the Carolinian

fauna, as it was considered a characteristic bird of the Alleghanian and Canadian faunas, particularly of the former zone.

The first nest, I believe, to be recorded from the Carolinian fauna was discovered by Mr. J. Harris Reed at Beverly, Burlington County, N. J., (see Auk, 1897, p. 323), and the second was found by G. H. Moore at Haddonfield, Camden County, N. J. This nest and eggs was acquired by the Delaware Valley Ornithological Club of this city for its matchless collection, and its discovery was reported at the February 2, 1899, meeting of the Club.

Reed has also found the Rose-breasted Grosbeak nesting in Upper Makefield township in Bucks County, Pa., and I have found it to be a summer resident in Bensalem township in the same county, in the vicinity of Cornwell's Station, where, also the Scarlet Tanager breeds. And further investigation would no doubt reveal the bird as a breeder at other localities in the Carolinian fauna, as it appears to be becoming a regular resident in various parts of this zone.

On May 28, 1907, I found a nest of the Rose-breasted Grosbeak at Torresdale, Philadelphia County, Pa., which is the only record of a nest for this county, and the most southern record for Pennsylvania which I have been able to find.

Until I found my nest Reed held the next record for southern nesting of the Rose-breast, but his record must now be accorded third place, as the nest I found is several miles further south.

The nest I found was collected with two fresh eggs. It was situated 6 feet up in a many-forked elder bush, in a thicket of elder, alder and spice bushes along the Poquessing Creek, bordering a wood of deciduous trees.

If there are any other records of the nesting of the Rose-breasted Grosbeak in the Carolinian fauna I should be glad to hear of them.— Richard F. Miller, *Philadelphia, Pa.*

**An Intergrade between Helminthophila pinus and H. leucobronchialis captured in Hyde Park, Mass.**— This bird, a male, was discovered by me on the morning of June 13, 1907, on a hillside covered by a dense growth of low oaks and birches, in the town of Hyde Park, Mass. I was drawn to the bird by his song, which was identical with that of the Golden-winged Warbler, being sometimes composed of three notes, *zee, zee, zee,* sometimes of four, and once only of two. I thought likely that it might be breeding here, but I could find no trace of the nest, so I decided to return in the afternoon and shoot the bird if it could be found, in order that a proper examination and record of it might be made.

I returned about three o'clock and shot it near the place where I had seen it in the morning. The description and measurements of this specimen are as follows:

Crown yellow, with a few dark feathers. Back and wings greenish yellow, some of the wing feathers being bluish gray edged with greenish. Tail bluish gray above, the three outer pairs of feathers partly white.

Both wings and tail light gray underneath. Two yellow bars on each wing, not so broad as in *H. chrysoptera*. A black line through the eye; sides of neck a little whitish; chin, throat, breast, sides, and belly decidedly yellow, this color being strongest on the breast. Some bluish gray feathers on the upper back and wings. Eyes hazel. Bill black. Tarsi and feet greenish black. Length, 5.05 in.; extent, 7.75; wing, 2.40; tail, 1.90; tarsus, .75; middle toe, .50; bill, .40. This specimen is now in my collection.— H. G. Higbee, *Hyde Park, Mass.*

**Additional Notes on the Brewster's Warbler in the Arnold Arboretum, Jamaica Plain, Mass.**[1] — The five eggs hatched June 15; the young left the nest June 22, after remaining in the nest but seven days. This tallies exactly with what I observed in a nest of *Helminthophila chrysoptera* in Arlington, Mass., in 1897: the five eggs hatched June 8, the young quit the nest June 15.

An agent was sent from the Museum of Comparative Zoölogy on the 22d to collect the young birds and the two parents, but he was forbidden by the authorities of the Arboretum to shoot any of them. The nest is now in the Museum (No. 5083). The parent birds in this case were, as far as I could see, a normal male *H. leucobronchialis* without any yellow below, and a female *H. chrysoptera* (essentially), the only abnormal mark that I could detect on her being a blackish line bounding the gray cheek patches above and separating them from the white superciliary streaks. The five eggs, it may be noted, were dark-spotted near the larger end and appeared like those of *H. chrysoptera*.— Walter Faxon, *Lexington, Mass.*

**Helminthophila leucobronchialis (Brewst.) in Lexington, Mass.**— On the 14th of June, 1907, while walking in company with Dr. Winsor M. Tyler through a hillside pasture sloping down to a wooded swamp in the town of Lexington, Mass., I came upon a male Brewster's Warbler in full song. This bird was often scrutinized by Dr. Tyler and myself at short range and with the aid of powerful glasses, from this time forth up to the end of June, about which time it stopped singing and disappeared from view. It wore the pure, unadulterated *leucobronchialis* dress, revealing not the slightest trace of yellow on the lower parts, even when seen at close quarters and by the aid of the most favorable light. Its crown was bright yellow, lores black, this color continued behind the eye as a short, thin postocular streak (as in *H. pinus*). Back gray (as in *H. chrysoptera*). Wing-patch yellow, indistinctly divided into two bars. Lower parts silk-white, purest on the chin and throat.

There were two male *H. chrysoptera* in the immediate neighborhood — so near that all three could be heard singing at the same time. The Brewster's Warbler had two different songs, absolutely indistinguishable from two of the songs of the Golden-winged Warbler. The first of these

[1] See Note by Helen Granger, in the July number of 'The Auk,' p. 343.

was the familiar *zee, zee, zee, zee* of *chrysoptera* varied at times by docking one or two of the last notes. The second song may be represented thus: — *ti-ti-ti-ti-ti-ti-ti, zee*, the preliminary notes (sometimes increased to as many as eight) delivered rapidly and without any of the buzzing quality of the long, higher, final note. This song also was indistinguishable from the second song of the Golden-winged Warbler.

Let us now compare the song of this bird with what has hitherto been recorded concerning the song of Brewster's Warbler. The type specimen (Newtonville, Mass.) was singing the first song of *chrysoptera* when it was shot (*test.* Brewster and Maynard). The Arnold Arboretum bird recorded by Miss Granger in the last number of 'The Auk,' usually sang the same song (*zee, zee, zee, zee*) but on one occasion it was heard singing the second song, described above, several times in quick succession (Miss Granger, *in litt.*). The intergrade between *H. pinus* and *H. leucobronchialis* shot by Mr. Higbee in Hyde Park, Mass., on June 13 of this year (see Mr. Higbee's note above) sang the first, ordinary song of *chrysoptera*. In brief, the few observations on the song of Brewster's Warbler in Massachusetts disclose no differences between it and the Golden-wing. Connecticut observers, on the contrary, find that in that State Brewster's Warbler sings sometimes like *chrysoptera*, sometimes like *pinus*, while Mr. Eames (Auk, VI, 309) and Mr. Sage (Auk, X, 209) aver that at times it utters notes peculiar to itself. But are Mr. Eames and Mr. Sage familiar with the second, less often heard song of *chrysoptera*? If not, the "peculiar" notes may prove to be those of the Golden-wing.

In this connection it may be worth while to complete the account of the musical repertory of *H. chrysoptera*. One bird, observed last June, varied his score by combining the first and second songs into one long and varied melody,— *zee, zee, zee, zee, ti-ti-ti-ti-ti-ti-zee*; another, discovered by Dr. Tyler near the Lexington Golf Links, sang in addition to songs 1 and 2, a third peculiar song, two long-drawn notes, *zee, zee-e-e-e*, the second note higher than the first and delivered with a quaver. This song No. 3 singularly suggested the ordinary song of *H. pinus*, though the relative pitch of the first and second notes was reversed.

On one occasion we heard the second song given when the bird was on the wing, and modified by that rapturous delivery which goes with the flight songs of birds. The author of this song was probably the Brewster's Warbler, though the proximity of two Golden-wings at the time made this a little uncertain.

It was my intention to secure the Brewster's Warbler at last, but I delayed shooting so long in the hope of finding through him his mate, nest, or young, that he eluded me by lapsing into silence.

This is the fourth specimen of Brewster's Warbler in Massachusetts. The other records are, Hudson, May or June, 1858, ♂, Sam'l Jillson, now in the collection of Williams College (Purdie, B. N. O. C., IV, 184); Newtonville, May 18, 1870, ♂, the type, W. Brewster (Amer. Sportsman, V, Oct. 17, 1874, p. 33); Jamaica Plain, May 19, 1907, ♂, Helen Granger

(Auk, XXIV, 343). Of these the type specimen (in Mr. Brewster's collection) has a very faint tinge of yellow on the breast, the others showed no trace of yellow on the lower parts. Then there is the specimen recorded in this number of 'The Auk,' Hyde Park, Mass., June 13, 1907, ♂, H. G. Higbee, which is midway between *H. pinus* and *H. leucobronchialis*, heavily washed with yellow from the base of the bill to the under tail coverts.— Walter Faxon, *Lexington, Mass.*

**A Correction.**— In Mr. Ridgway's 'Birds of North and Middle America,' Part II, 1902, p. 572, the citation "*Dendroica cærulea* Loomis, Auk, VIII, 1891, 170 (Chester Co., South Carolina, Apr. 15 to May 3 and Oct. 4 to 26)" should be cancelled and transferred to the Cape May Warbler (*Dendroica tigrina*). The correct citation for *Dendroica cærulea* is "Loomis, Auk, VIII, 1891, 170 (Chester Co., South Carolina, April 13 to 30, and Aug. 8 to Oct. 22)." — Arthur T. Wayne, *Mount Pleasant, S. C.*

**The Northern Water-Thrush again Nesting in Massachusetts.**— In 1905 I recorded in 'The Auk' the nesting of the Northern Water Thrush (*Seiurus noveboracensis*) in Lancaster, Mass. I found two sets of eggs, May 21, 1905, well incubated.

This year, June 23, 1907, not in the same swamp, but near it, I found a brood of young of this species that could fly. I shot one. It would seem to established the fact that this bird breeds regularly in this locality.

The eggs must again have been laid early in May, despite the cold spring and the late arrival of the north-bound migrating Water-Thrushes.— John E. Thayer, *Lancaster, Mass.*

**A Mockingbird (*Mimus polyglottos*) in Lexington, Mass., in Winter and Summer.**— A Mockingbird appeared near my house in Lexington on the 8th of February, 1907, and was seen by me at intervals up to the 29th of March. On the 31st of March and the 4th of April a Mockingbird, doubtless the same one, was seen by several persons in another part of the town, about a mile to the eastward. He was neither seen nor heard again until the 9th and 10th of July, when he reappeared near my house. This bird sung at the end of March, early April, and on both the days when he was seen in July. He was an unusually fine singer, even for a Mockingbird. Among his very perfect imitations the notes of the Phœbe and Great Crested Flycatcher were conspicuous. The winter of 1906–07, it should be remembered, was an unusually cold one in eastern Massachusetts.— Walter Faxon, *Lexington, Mass.*

**The Great Carolina Wren in Southern Rhode Island.**— As has been previously noted in 'The Auk' by the present writer, this bird has been within recent years known to summer in southern Rhode Island. Last year and year before (1905–1906) there was no indication of his presence in the neighborhood of Peace Dale in South Kingstown in the Narragansett

country of Rhode Island. This year, however, at least one male has been heard singing upon the 28th and 29th of June, and the 1st and 2d of July in precisely the same neighborhood where he was heard and seen, as previously recorded. The song this year was a rather faint-hearted imitation of the Cardinal's fine call. By that I mean, that it was not uttered with the boldness observed in previous years. This may have been due to the great heat or some other cause, but there is no question it is the voice of the Great Carolina Wren upon the dates given this year.

I send this note to 'The Auk,' hoping that some other observer may feel prompted to record his observation, as it is certainly a matter of interest to Rhode Islanders to find this delightful bird becoming a fairly regular summer visitor.— R. G. Hazard, *Peacedale, R. I., July 4, 1907.*

**Large Set of Brown-headed Nuthatch's Eggs.**— On March 17, 1907, I took a set of eggs that perhaps is worth mentioning. While out riding I saw a Brown-headed Nuthatch (*Sitta pusilla*) fly from a hole in a pine stump (about 6 feet up). Riding up to it I broke a piece of the wood away and peeped in. To my surprise, the nest contained nine eggs. I took the nest and eggs and now have them. Incubation was slight. The eggs are rather under the average in size and very uniformly marked. I have never seen a set of more than six eggs before and have found sets of that number rather rare. The usual set here is five eggs, while often it is four and sometimes only three. The earliest set I have ever taken was a set of six fresh eggs on March 3, while the latest was a set of five slightly incubated on April 22.— I. F. Arnow, *St. Marys, Ga.*

**A Recent Blue-gray Gnatcatcher** (*Polioptila cærulea*) **in Delaware Co., Pa.**— On May 18 while out birding near Wayne, Pa., I was surprised to see a Blue-gray Gnatcatcher above me. I was more than pleased to see it on account of its rareness in this locality and also the first one I had ever seen. I followed and watched it at close range with fairly strong glasses and feel very sure of its identity. The long black tail with white edges and the whole appearance of the bird were unmistakable.— Leonard S. Pearson, *Wayne, Pa.*

**Two Birds new for Ohio** (*Oceanites oceanicus* **and** *Merula migratoria achrustera*).— During a recent visit to New Bremen, Anglaize Co., Ohio, Mr. Gus Kuenning, a banker and close observer of birds, told me about the occurrence of Wilson's Petrel at this place. On July 7 of this year, he found the partly decomposed body of a bird, which had been washed off the roof of St. Paul's church by a severe rainstorm. He identified the bird and upon cross-examining him I found that he knew very well what he was talking about and that his identification was correct. How long the body had lain on the roof could not be told and it was also too far gone to be preserved. It was probably killed by striking against the church tower. This is the second species of these wanderers that has been found in the State of Ohio.

In going over my specimens of Ohio Robins I found a female shot April 20, 1900, at Waverly, Ohio, that agrees in coloration with the description of *Merula migratoria achrustera* as given in Vol. IV of Ridgway's 'Birds of North and Middle America.' The measurements are somewhat larger than the type measurements, but the bird certainly is much closer related to *achrustera* than to *migratoria* proper. I do not doubt but what the majority of the southern Ohio Robins belong to the southern variety, as even some of the wintering Robins shot there are not typical *migratoria*.— W. F. Henninger, *Tiffin, Ohio.*

**Petiver's 'Gazophylacium.'** — I recently found in an old book shop a unique copy of Petiver's 'Gazophylacium Naturæ et Artis,' consisting of 100 folio copper plates and 1245 figures of "beasts, birds, fishes, reptiles, insects, shells, plants, corals; as also diverse fossills, formed stones of the sea, with their names, places and short descriptions to each," London, 1702–1709.

With these two volumes of plates was originally published a small volume of text giving a short description of the original of each figure. This last volume seems to have become very scarce for in 1742, a Mr. Roger North of Rougham, after waiting upwards of twenty years, found a copy; then, for his amusement, he transcribed all the descriptions onto a sheet opposite each figure in the plates. Not satisfied with this he gathered five other of Petiver's productions, in all 195 folio plates, and 2726 figures, treating them in the same manner, thus producing 258 folio pages of finely written matter.

Aside from being unique the book is of especial interest to Americans as it contains 92 figures of American animals, birds, insects, etc. Perhaps the most interesting and probably the first cut ever published of the Ruby-throated Hummingbird (*Trochilus colubris* Linn.) is found on Plate 3, Fig. 8. It portrays the back view of a rather well shaped skin and the written description reads "*Tominoio Mariana Virescens Gutture flammeo.* The Humming Flame Throat. The Reverend Mr. Hugh Jones sent me this scarce and beautiful bird from Mary-Land."

On Plate 6 is figured the side view of a skin. In a general reference to all the figures on the plate I find: "Here you will see first a mondescript Bird from Mary-Land with a Golden or yellow throat"; then each figure is treated separately and the following occurs, '*Avis Marylandica Gutture Luteo.* The Mary-Land yellow throat. This the Reverend Mr. Hugh Jones sent me from Mary-Land." Doubtless church records somewhere will show who this clergyman was who sent bird skins from the Jamestown Exposition region over two hundred years ago; 1696 to 1698 being the years most often mentioned in acknowledging specimens.

Another figure on Plate 43 represents the American Eared Grebe, opposite which he writes: "*Ardea Exotica Aurita.* This Bird is very remarkable For its two eared Tufts on the Head and Wanting its Back Toe. Mr. Ray's Figure of the *Ardea Cinerea minor* in his Ornithology Tab. 49, pag.

279 some what resembles it. I copied this from A picture in Mr. Clark's Collection of Paintings." Some of our modern bird skinners might get amusement, if not inspiration, from the methods in vogue over two hundred years ago, for in his "Directions for preserving All Animals, viz; Beasts, Birds, Fishes, Serpents, Insects, Shells, Fossills &c. so as to keep" he says: "Thirdly, as to Fowls, those that are large, if we cannot have their Cases whole, their Heads, Legs and Wings will be acceptable: but smaller birds are easily preserved entire, by Opening their Bodies which is best done by cutting them under the Wing, and take out their entrails, and then Shutt them with Oakham or Tow mixt with pitch or Tar and being thoroughly dried in the sun, wrap them up Close & keep them from moisture." I know nothing of Roger North who so laboriously transcribed these works but if he had a monument of marble it is not better preserved than this one of paper and nut-gall ink.— Frank S. Daggett, *Oak Park, Ill.*

**Supplemental Note to 'A Lapland Longspur Tragedy.'** [1]— Mr. A. D. Brown of Pipestone, Pipestone Co., in replying to the letter of inquiry sent to him said that twice before in his experience in southwestern Minnesota, extending over a period of twenty-five years, there had been similar considerable destructions of Lapland Longspurs occurring in the spring of the year under like climatic conditions. One of these he describes in some detail as he observed it at Pipestone. A sleet had fallen which froze as it fell, covering the earth with a layer of ice on which three inches of soft wet snow fell. That night the migrating Longspurs entered this ice and snow covered area, many of them hungry and weary, and being unable to procure food finally fell from exhaustion and were either killed by injuries received in striking various objects or remained fluttering about on the ground until the sun rapidly melted the snow and ice the next morning, thus uncovering the fallen seed supply, from which they secured sufficient food to restore their strength and permit them to continue on their way. By afternoon all these birds were gone. Mr. Brown thinks this failure of the food supply the correct explanation of the phenomenon, because when the live birds were picked up that night they fed greedily from seeds provided and quickly gained sufficient strength to fly away. Also the stomachs of many dead birds examined were empty although the bodies were fat. During the early winter, when the Longspurs are abundant, the snow is dry and blows off the ridges and fields, and then, too, the weed tops projecting above the snow still contain many seeds which are later shaken out by the high winds. During the wet snowfalls of early spring, conditions are quite different and the ground-feeding seed-eaters occasionally find their food supply suddenly withdrawn over wide areas. Three was no snow at Pipestone at the time of the last destruction and although the Longspurs were present in great numbers none perished at

[1] Published in this number of 'The Auk', pp. 369–377. This note was received from the author too late to be added as a footnote at the end of the article.— Edd.

that place. This theory of Mr. Brown's of rapid exhaustion from sudden withdrawal of food seems worthy of consideration and may seem, in part at least, to explain these rather mysterious occurrences.— THOMAS S. ROBERTS, *Minneapolis, Minn.*

## RECENT LITERATURE.

**Ridgway's 'The Birds of North and Middle America,' Part IV.**[1]— Part IV of this great work, issued in July of the present year, marks the completion of the first half, carrying the subject through the Oscines and including the first four families of the Mesomyodi. The first four Parts contains, as stated in the Preface, "1,675 species and subspecies, or somewhat more than half the total number of North and Middle American Birds."[2]

The present volume includes ten families, as follows: Turdidæ, with 12 genera, 54 species and 43 additional subspecies; Zeledoniidæ, monotypic (included in the Turdidæ in the main text and raised to family rank in the addenda, p. 885); Mimidæ, 12 genera, 33 species and 17 additional subspecies; Sturnidæ, including the common Starling, introduced from Europe; Ploceidæ, 2 genera and 2 species, introduced into Porto Rica from Africa; Alaudidæ, 2 genera,— *Alauda*, of casual occurrence in Greenland and the Bermudas, and *Otocoris*, with one species and 25 subspecies; Oxyruncidæ, monotypic; Tyrannidæ, 47 genera, 133 species and 39 additional subspecies; Pipridæ, 7 genera, 15 species and 2 additional subspecies; Cotingidæ, 18 genera, 32 species and 18 additional subspecies. In addition to the 103 genera and 417 species and subspecies formally treated, nearly half as many more are included in the keys and footnotes, so that in many cases nearly all the extralimital South American species of the included genera are passed in review.

Most of the innovations in classification were first made in a special

[1] The Birds | of | North and Middle American: | A Descriptive Catalogue | of the | Higher Groups, Genera, Species, and Subspecies of Birds | known to occur in North America, from the | Arctic Lands to the Isthmus of Panama, | the West Indies and other Islands | of the Caribbean Sea, and the | Galapagos Archipelago. | By | Robert Ridgway | Curator, Division of Birds. | — | Part IV. |

Family Turdidæ — Thrushes.
Family Zeledoniidæ — Wren-Thrushes.
Family Mimidæ — Mockingbirds.
Family Sturnidæ — Starlings.
Family Ploceidæ — Weaver Birds.
Family Alaudidæ — Larks. |
Family Oxyruncidæ — Sharp-bills. |
Family Tyrannidæ—Tyrant Flycatchers.
Family Pipridæ — Manakins. |
Family Cotingidæ — Cotingas. | — |

Washington: | Government Printing Office. | 1907. = Bulletin of the United States National Museum, No. 50, Part IV.— 8vo, pp. i–xxii + 1–973, pll. i–xxxiv.

[2] For notices of previous Parts in this Journal, see Vol. XIX, Jan. 1902, pp. 97–102; Part II, Vol. XX, Jan. 1903, pp. 73–76; Part III, Vol. XXII, April, 1905, pp. 219–222.

paper published in January, 1906,[1] but a few further changes are here made, especially in nomenclature, where *Myiochanes* replaces *Contopus* and *Procnias* supplants the familiar name *Casmorinchos* (or *Chasmorhynchus*, as usually written), etc., and original spellings of many names replace the emended forms of purists. *Planesticus* takes the place of *Merula*, but *Galeoscoptes* remains. The departures from the A. O. U. Check-List names of North American birds are, however, few, and have mostly already been adopted by the A. O. U. Committee, though not yet announced.

The present volume is marked by the same painstaking bibliographic research and attention to details that so eminently characterize its predecessors in the series, and we welcome it with the same sense of gratitude to the author for his invaluable contribution to systematic and faunistic ornithology. The thirty-odd plates of structural details, drawn mostly by J. H. Hendley of Washington, are an important adjunct to the text.— J. A. A.

**Townsend and Allen's 'Birds of Labrador.'**— This important summary[2] of present knowledge of the birds of Labrador is based, the authors inform us, on examinations of all the literature on the subject they have been able to find, and on a visit by them to the Labrador coast in the summer of 1906. The paper includes an account of the topography of Labrador, its faunal areas and bird migration; its ornithological history and the bird and egg destruction that have disgraced its coast and inlands, followed by an annotated list of its birds, and a bibliography. The historical part begins with George Cartwright's 'Journal,' published in 1792, and mentions in more or less detail the visits of other naturalists down to the 'Neptune' expedition of 1903–1904, including the journeys of Audubon (1833), Storer (1849), Bryant (1860), Coues (1860), Verrill (1861), Packard (1860 and 1864), Stearns (1875, 1880, 1882), Turner (1882–1884), and others, some of whom barely touched its southern coast. After recounting the barbarous havoc of the 'eggers' and the wholesale slaughter of geese and other waterfowl for their flesh or feathers, it is asked "What will be the result of all this if nothing be done to stop the destruction?" The answer is obvious,— the entire depopulation of the water bird resorts of the Labrador coast and adjacent islands.

In the systematic list 259 species and subspecies are considered, of which two are extinct, and 44 are regarded as having been wrongly attributed to Labrador, leaving 213 as authenticated Labrador species. A tabular statement gives the approximate number of birds seen by the authors in

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[1] Some Observations concerning the American Families of Oligomyodian Passeres. By Robert Ridgway. Proc. Biol. Soc. Wash., XIX, pp. 7–16, Jan. 1906.

[2] Birds of Labrador. By Charles W. Townsend, M. D., and Glover M. Allen. Proc. Boston Soc. Nat. Hist., Vol. XXXIII, No. 7, pp. 277–428, pl. xxix (map). July, 1907.

Labrador, July 10 to August 3, 1906, with localities and date of observations, the list numbering about sixty species.

The Labrador of the present paper includes the whole peninsula commonly known by that name, extending from the Gulf of St. Lawrence to Hudson Strait, its eastern coast extending from N. Lat. 52° to about 63°. Faunally it extends from the Arctic barren grounds, which wholly occupy its northern part and a narrow strip along the entire eastern coast, across the Hudsonian and into the Canadian zone, the latter extending, in a general way, to "the latitude of Hamilton Inlet." The characteristic species of both plants and birds are enumerated for each of the three zones.

Among the points of special ornithological interest are the notes on the Great Auk, the Labrador Duck and the Eskimo Curlew, and on various species wrongly attributed to Labrador. *Otocoris alpestris praticolor* is eliminated as a bird of Labrador, "the Horned Lark of the Labrador coast, both eastern and southern," being considered as "the northern race, *Otocoris alpestris alpestris*"; and in this connection the alleged recent eastward extension of *praticola* is again considered as probable. The supposed Labrador race of the Savanna Sparrow (*Passerculus sandwichensis labradorius* Howe) is again shown to be untenable, even Mr. Oberholser, contrary to his "previous suspicions," being unable to find "any substantial difference worth recognizing by name." The determination of the status of the Labrador Horned Lark and Savanna Sparrow was among the incentives that induced the authors to undertake the Labrador trip. Altogether the paper that has resulted is one of unusual interest and value, clarifying and summarizing our knowledge of Labrador ornithology.— J. A. A.

**Townsend's 'Along the Labrador Coast.'**[1]— This is an entertaining narrative of the trip along the Labrador coast that furnished the basis of Townsend and Allen's 'Birds of Labrador,' described above. It consists, as would be expected, mainly of notes on the natural history, and especially on the birds of the Labrador coast, but contains as well an interesting account of the country, its industries and people. The narrative is pleasantly written, and as little worth noting appears to have escaped the author's attention it is full of general as well as ornithological information about the parts of the country visited. The author's ornithological observations are here recorded in much greater fulness and much more informally than in the 'Birds of Labrador,' and have thus the freshness of the daily note-book jottings of the bird-lover in fresh fields. An index, which gives the technical as well as the common name of the species observed, gives definiteness as well as easy access to the natural history matter of the text.

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[1] Along the | Labrador | Coast | — | By | Charles Wendell Townsend, M. D. | Author of "The Birds of Essex County" | With illustrations from Photographs | and a map [Seal] — | Boston Dana Estes & | Company Publishers | [1907] (no date). Price, $1.50.

'Along the Labrador Coast' is thus an entertaining and instructive narrative of much literary merit.— J. A. A.

**Clark on New Birds from Eastern Asia and the Aleutian Islands.**[1]— This paper, the author states, is based mainly on a collection of birds made by the late Mr. P. L. Jouy during a residence of over three years in Korea. This collection, containing 554 specimens, was being worked up by Mr. Jouy at the time of his death in 1894, but his report was never completed, and there have been as yet only incidental reference to a few of the species. The new forms here described have come to light through the preparation by Dr. Clark of a report on the ornithological results of the recent cruise of the United States Fisheries steamer 'Albatross,' during which he has been permitted to make use of the Jouy and other pertinent material in the National Museum.

The 18 new species and subspecies here characterized include a new ptarmigan (*Lagopus rupestris chamberlaini*) from Adak Island, Aleutian Islands, collected by Mr. C. H. Townsend in 1893. It is described as "the grayest and one of the lightest" of the local forms of ptarmigan of the Aleutian chain. The new forms are mostly from Korea, but include five or six from Japan. A new genus, *Tisa*, is proposed for *Emberiza variabilis* Temminck, which has heretofore been referred to various genera by different authors.— J. A. A.

**Blackwelder's Notes on Chinese Zoölogy**— In this Report[2] the birds occupy pp. 483–506, and is based on a collection of 64 specimens, representing 49 species, "supplemented by descriptions of 81 additional species, individuals of which were examined in the hand or seen at short range and described at the time of observation. Regarding some of the latter there is necessarily more or less doubt." The identification of the specimens is accredited to Dr. Charles W. Richmond; and the single new form (*Olbiorchilus fumigatus idius* Richmond) rests on his inedited description. Of the 132 species recorded about twenty are entered as doubtfully determined and more than half of the others rest on field determinations of birds seen in life. Colored plates of six species, drawn by Mr. J. L. Ridgway, illustrate the report on the birds. The region traversed includes portions of the Provinces of Chi-li, Shan-tung, Lian-tung, Shan-si and Shen-si.— J. A. A.

**Bangs on Birds from Costa Rica and Chiriqui.**[3]— This paper is based on

[1] Eighteen new Species and one new Genus of Birds from Eastern Asia and the Aleutian Islands. By Austin H. Clark, of the United States Bureau of Fisheries. Proc. U. S. Nat. Mus., Vol. XXXII, pp. 467–475. Published June 15, 1907.

[2] Research in China. Expedition of 1903-04, under the Direction of Bailey Willis. Report on Zoölogy, by Eliot Blackwelder. Extracted from Carnegie Institution of Washington Publication No. 54, Research in China, Vol. I, Part II, pp. 481–508, pll. col. lviii–lxiii. Published June, 1907.

[3] Notes on Birds from Costa Rica and Chiriqui, with descriptions of new forms and new records for Costa Rica. By Outram Bangs. Proc. Biol. Soc. Washington, Vol. XIX, pp. 101–112. Published July 30, 1907.

Mr. C. F. Underwood's collection, consisting "of 3,365 skins, representing about 611 species and subspecies," recently purchased by Mr. John E. Thayer of Lancaster, Mass. The collection contains many specimens identified by the late Osbert Salvin, and is rich in young birds in nestling plumage. "The dates on the labels cover nearly a score of years and the collection is the result of Underwood's laying aside the better things secured by him during this period." It is thus fortunate that this important collection was secured by Mr. Thayer in the interest of American ornithologists.

Besides the new records for Costa Rica and the critical comment on various species, eight species and subspecies are described as new. In his remarks on the various forms of *Stelgidopteryx*, Mr. Bangs emphatically reaffirms his "belief that there is *but one* species of *Stelgidopteryx*."— J. A. A.

**Clarke 'On the Birds of the Weddell and adjacent Seas.'**— In his third paper on the 'Ornithological Results of the Scottish National Antarctic Expedition' Mr. Clarke[1] deals with the bird-life of the Antarctic Ocean southward of the 60th parallel of south latitude, or of the Weddell Sea and adjacent waters. Following an itinerary of the 'Scotia' in these high southern waters, is a summary of the leading ornithological observations, in which it is stated that four species of birds were added to the short list of nine previously known to have occurred south of the Arctic Circle, these additions including the Arctic Tern (*Sterna macrura* = *paradisæa*). "A specially important ornithological feature of these voyages of the 'Scotia,' says Mr. Clarke, "was the presence in the Polar Sea of a number of species of Petrels far beyond the southern limits of their breeding areas. This seems to indicate that at the close of the southern summer numbers of Hutton's Sooty Albatroses (*Phœbetria cornicoides*), Cape Petrels (*Daption capensis*), Giant Petrels (*Ossifraga gigantea*), Antarctic Petrels (*Thalassœca antarctica*), Giant Silver Petrels (*Priocella glacialoides*), Blue Petrels (*Halobœna cœrula*), and (*Œstrelata brevirostris*) cross the Antarctic Circle and sojourn among the polar ice ere they retreat northwards to pass the winter in more genial oceanic resorts. It is possible, however, that some of these visitors to the far south are non-breeding birds, and, if so, they may have spent the entire summer there. The Tubinares are, as is well known, great wanderers, but these very remarkable southern incursions are, perhaps, to be explained by the extraordinary abundance of food to be found in the waters of the far south in the summer and autumn, which allures some of the birds further and further towards the pole, until the ice-barrier, which almost girdles the Antarctic Continent, arrests further progress, since at its base the food-supply entirely ceases. This, too,

[1] Ornithological Results of the Scottish National Antarctic Expedition.— III. On the Birds of the Weddell and adjacent Seas, Antarctic Ocean. By Wm. Eagle Clarke, F. R. S. E., F. L. S., The Royal Scottish Museum. Ibis, April, 1907, pp. 325–349, and map.

explains why our familiar Arctic Tern (*Sterna macrura*) passes the southern summer (our northern winter) amid these ever-icy seas."

The systematic list numbers 17 species, with extended comment on their distribution and habits. The only Tern previously recorded from this region is the well-known South American *Sterna hirundinacea*. But "when the 'Scotia' sailed from the South Orkneys she left the *Sterna hirundinacea* behind her. Other Terns were met with, often in considerable numbers, and specimens were fortunately obtained in widely scattered portions of the Weddell Sea. These, strange to say, I found to belong to the most northern representative of their genus, namely, to *Sterna macrura*, the Arctic Tern! Thus this familiar bird to British ornithologists would seem to have the most extensive latitudinal range to be found among vertebrate animals, since it is now known to occur from 82° N. to 74° 1′ S. .... They were often observed in considerable numbers, and are logged for March 5th, 1904, as being seen in thousands in 72° 31′ S.; while from the 9th to the 13th of the same month, many were seen when off Coats Land, in 74° 1′ S., 20° 0′ W.,....That it is only a winter visitor does not admit of doubt, for the bird certainly does not breed there; nor is any other Tern, so far as we know, a native of the Antarctic Continent." As is now well-known, somewhat reversed conditions occur in the case of the Wilson's Petrel (*Oceanites oceanicus*), which breeds in the Antarctic islands and wanders north in the northern summer to the North Atlantic.— J. A. A.

**Goeldi's 'Album de Aves Amazonicas.'**— Fasciculus III (pll. xxiv–xlviii) brings to a close this noteworthy supplement[1] of 48 colored plates, illustrating Dr. Goeldi's well-known 'Aves do Brazil,' published 1894–1900 (2 vols. 12mo). About 400 species are very successfully illustrated, by the tricolor process, for the most part with excellent results. They thus form a most desirable and valuable supplement to the text, from the point of view of not only the general reader, but the student of South American ornithology. We tender the author our sincere congratulations on the results thus so happily achieved.

Dr. Goeldi, after twenty years' residence in the American tropics, has retired from the active directorship of the great museum which so appropriately bears his name, it being mainly his own creation, returning to Switzerland, his native land, still in vigorous health, with, we trust, many years of scientific activity before him.— J. A. A.

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[1] Museu Goeldi | (Museu Paraense) | de Historia Natural e Ethnographia | — | Album de Aves Amazonicas | organisado pelo Professor | Dr. Emilio A. Goeldi. | Director do mesmo Museu | — | Publiçao iniciade por ordem de S. Ex$^{cia}$ O S$^{nr}$ D$^{r}$ José Paesde Carvalho, | ex-governador | e continuada sob o Governo de S. Ex$^{cia}$ O S$^{nr}$ D$^{r}$ Augusto Montenegro | — | Desenhos do S$^{nr}$. Ernesto Lohse, Desenhista-Lithographo do Museu Goeldi | — | Supplemento illustrativo a' obra "Aves do Brazil" | pelo Dr. Emilio A. Goeldi | Livraria classica de Alves & Cie, Rio de Janciro, | 1894–1900 (2 volumes) | 1900–1906.— 4to, fasc. I, 1900, pll. 1–12; fasc. 2, 1902, pll. 13–24; fasc. 3, 1906, pll. 24–48. With title-page, contents, indexes, and directions for binding. Also excerpts (8 pp. 4to) from reviews and personal acknowledgments, etc.

**Mrs. Davenport's 'Birds of Windham and Bennington Counties, Vermont.'**[1] —These two counties embrace the southern fourth of the State of Vermont, and aggregate an area of about forty miles square, varying in elevation from about 200 feet in the valley of the Connecticut River, which forms its eastern border, to nearly 4000 feet, in the interior. This region has been Mrs. Davenport's home for the greater part of her life, and she has become familiar with its flora and fauna through many years of careful exploration. The character of the country is first described, followed by an annotated list of the birds, numbering 176 species. The annotations contain much definite information about the manner of occurrence of the species. Of the twelve species of *Dendroica* recorded eight are given as more or less common breeding summer residents. Unfortunately the list is badly disfigured by typographical errors, for which the author is doubtless not responsible.— J. A. A.

**Herman's The Protection of Birds in Hungary.**[2]— Hungary — greatly to her credit — has ever taken a most active interest in bird protection, and from the first inception of the movement in Europe for the international protection of birds has been one of its strongest supporters. This work, issued in English, by order of the Hungarian Minister of Agriculture, and prepared by Otto Herman, the well-known Hungarian ornithologist and director of the Hungarian Central Bureau for Ornithology, is, in effect, an historical account of the efforts for bird protection in Europe, and of the present state of international bird protection. Preceding the historical part is an introduction (pp. 9–23) treating of the generalities of the subject, under 'Birds and Nature' and 'Birds and Man.' The 'Historical Part' begins with a general statement respecting the changes unfavorable to bird-life due to the spread of agriculture, and the resultant need for systematic bird protection through legal enactments and international coöperation. Then follows a detailed account of the progress of bird protection in Europe, beginning with a meeting of German farmers and foresters in 1868 in advocacy of an international agreement, and of subsequent steps to the same end down to the International Convention for the Protection of Birds held in Paris in 1902, and the adoption, in 1906, of the 'International Convention for the Protection of Birds,' into the "Corpus Juris" of Hungary; which, "being endowed with the force of law, found the rational protection of birds in Hungary a *fait accompli*." The signatories to the Paris Convention (March 19, 1902) include, through their properly appointed representatives, the following countries: Austria, Prussia, Belgium, Spain,

[1] Birds of Windham and Bennington Counties. By Mrs. Elizabeth B. Davenport. Vermont Bird Club, Bulletin No. 2, pp. 5–14, July, 1907.

[2] Publication of the Royal Hungarian Minister of Agriculture | — | The International | Convention | for | The Protection of Birds | concluded in 1902; | and | Hungary. | Historical Sketch. | Written by order of his Exc. | Ignatius de Darángi, | Hungarian Minister of Agriculture.| By | Otto Herman | late M. P. | Director of the Hung. Centr. Bur. f. Ornithology. | [Seal] Budapest | Victor Hornyánszky, Court Printer | 1907 — 8vo, pp. v + 241.

France, Greece, Luxemburg, Monaco, Portugal, Sweden and Norway, and Switzerland. Great Britain is not in the list, but is, independently of the Convention, a strong supporter of bird protection. Italy, however, refused to sign; and not only this, legally sanctions and encourages the wholesale slaughter of the birds, even on their migrations, which all the other countries of Europe so strenuously protect!

The Paris 'Convention' consisting of 16 articles and two schedules (schedule I, useful birds; schedule II, noxious birds), is here published in full. It provides protection for all of the useful birds, their nests and eggs, and prohibits the use of traps, cages, nets, nooses, lime-twigs, and any other kind of instruments used for the purpose of rendering easy the wholesale capture or destruction of birds. Destruction of game by firearms is allowed during prescribed open seasons. During the close season for any kind of game bird it is unlawful to import, sell, or offer to sell, or transport or deliver any such birds. With this we may contrast the position of Italy, which instructed her delegate to sign no "binding schedule," and added that "no agreement refused by Italy could be of any advantage to Hungary or Austria"— a fine dog-in-the-manger spirit, quite in keeping with her approval of the brutal wholesale destruction of the most useful insectivorous birds, as well as all others, that visit this country in winter on migration, "and are therefore alien property as far as Italy is concerned."

'The Protection of Birds in Hungary' occupies pp. 145–175, and includes the bird protection act now in force in that country. Not only is the protection of birds rigidly insured, but the Hungarian Ministry of Commerce issued on June 12, 1906, an order for artificial nesting-boxes to be placed in the State forests, comprising five million acres; and also, at the same time, issued a decree providing for bird-days and tree-days in the scheme of work of elementary schools. As early as 1898–99 the Minister of Agriculture caused to be published (in Hungarian) a large work (in two volumes) by Stephen Chernel on economic ornithology, and in 1900 ordered its translation into French, in order to make it accessible to the people of other nationalities, following this in 1901 with a smaller work, by Otto Herman, with illustrations by T. Csörgey, on 'Useful and Noxious Birds,' prepared with special reference to reaching the lower classes as an appeal in behalf of the birds.— J. A. A.

**Williams's 'Game Commissions and Wardens.'**[1]—This is a digest of provisions for the enforcement of game laws, and comprises three parts. "Part I contains a historical summary of the evolution of the warden service and general discussion of various features connected with warden work; Part II, a summary of the most important provisions of the laws stated in the briefest possible form and arranged in uniform sequence; Part III, extracts

[1] Game Commissions and Wardens, their Appointment, Powers, and Duties. By R. W. Williams, Jr., Game Law Assistant, Biological Survey, U. S. Department of Agriculture, Biological Survey — Bulletin No. 28, 8vo, pp. 1–285, with maps and diagrams. Issued August 1, 1907.

from the statutes relating to game warden departments, duties and powers of officers, and special provisions connected with administration. No effort has been spared to make the report as complete and accurate as possible. In addition to extracts from the statutes, it contains the results of seven years' observation of the methods of administering game laws, and the conclusions of those who have contributed to the discussion of points of special interest." The foregoing is from the Preface (p. 10), by Dr. T. S. Palmer, and states concisely the scope and purpose of this important publication, which must be of great value to persons interested in game protection, and especially to those charged with the enforcement of game laws. Under 'Game law administration' (pp. 43–99) are defined the powers of officers and methods of procedure in respect to arrest, search and seizure; prosecutions, in reference to who may prosecute, the methods, and the results, etc. The 'Summaries of the provisions relating to enforcements' give, in concise form, the provisions at present in force in all of the States and Territories, and include the duties of officers, and the offenses and the required evidence on which to base prosecutions. The 'Extracts from laws with special reference to enforcement' occupies the second half of the 'Bulletin,' and presumably comprise all of the essential features. We have thus in convenient form a condensed 'law-book' on game protection which should meet an actual need.—J. A. A.

**Anderson's 'The Birds of Iowa.'**— In a paper[1] of nearly 300 pages, Mr. Anderson records 355 species and subspecies as of known occurrence in the State, 309 of which are "found more or less regularly," and 44 as only "casual or accidental" visitants; one species, the Carolina Paroquet, is given as extinct, and another, the House Sparrow, as the only introduced species. Twenty-five additional species are given in a 'Hypothical List' as having been taken "very close to the borders of Iowa," or "reported as occurring in Iowa on what appears to be insufficient evidence." Some of these might well have been included in the main list, and it is only a question of time when all may doubtless be added on the basis of actual capture within the State; but their present exclusion as Iowa birds is commendable.

An 'Introduction' of 20 pages states the scope and basis of the work, the topographic, climatic, and faunal features of the State, and contains a list of the large number of contributors who have furnished valuable notes or local lists, covering most of the counties of the State.

The method of treatment includes, usually, a general statement regarding the character of the bird's occurrence in the State, followed generally by a paragraph of detailed county records, especially in the case of the rarer species, giving locality, date and authority for the records cited. A large part of the text thus consists of previously unpublished records, and

[1] The Birds of Iowa. By Rudolph M. Anderson. Proc. Davenport Acad. Sci., Vol. XI, pp. 125–417, March, 1907.

adds greatly to our knowledge of the distribution of many species of birds within the boundaries of Iowa. The list is thus voluminously annotated, the notes varying, as the case may require, from a dozen lines to a page or two to the species. It is, however, all pertinent matter, and the list as a whole is an unusually important contribution to faunistic ornithology.

A bibliography of 10 pages consists of the titles of, for the most part, general works that include incidental references to Iowa birds; but as they are unannotated, and as the minor records and 'notes' contained in ornithological and other periodicals are altogether omitted, it falls far short of being a satisfactory bibliography of the subject treated. Reference is here made to 'The Literature of Iowa Birds. A Complete Record of the Published Writings on the Birds of Iowa,' by Paul Bartsch, "prepared [in 1899] as a thesis for the degree of Master of Science," and forming three volumes of typewritten manuscript, deposited in the library of the State University of Iowa. It is to be hoped that Dr. Bartsch's work may eventually be published, at least in extended abstract, and thus be made available for more general use.— J. A. A.

**Rich's 'Feathered Game of the Northeast.'**[1] — This handsomely printed and effectively illustrated book of about 450 pages treats of about ninety species of the game birds of the "upper eastern coast" of North America, from the standpoint of the sportsman, by a sportsman, well qualified for the task by personal experience in the field and literary and artistic ability. It should prove of interest not only to sportsmen but to the general reader, and to some extent to ornithologists. The writer has evidently some knowledge of ornithology, the technical names of the birds being 'up to date,' and their relationships and distribution, when referred too, are generally correctly stated, although his surmise that "possibly a few" Heath Hens may still "be left on the eastern end of Long Island" is a little out of date. The author is heartily in favor of better protection for our rapidly decreasing game birds, and in his preface and throughout his book urges "upon the great brotherhood of sportsmen" moderation in the use of the gun, and both in the preface and elsewhere (see under American Woodcock, p. 127) favors the abolition of spring shooting, the prohibition of the sale of game, and the limitation of the number of birds which a man may kill in a day's hunt. The illustrations, from drawings by the author, are a serviceable addition to the text, being for the most part good representations of the birds depicted.— J. A. A.

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[1] Feathered Game | of the | Northeast | By | Walter H. Rich | With illustrations by the author | New York | Thomas Y. Crowell & Co. | Publishers.— No date (1907). 8vo, pp. xvi + 432, frontispiece in color (Wood Duck), and 84 halftone plates. $3.00 net, postage 30 cents extra.

## CORRESPONDENCE.

### Protective Coloration.

EDITORS OF 'THE AUK':—

*Dear Sirs*: — I wish to record in 'The Auk' the main results, up to date, of my study of Protective Coloration. These were all foreshadowed in my first article in 'The Auk' (XIII, 1896, pp. 124–129, 10 illustr.), and, later, in a paper published in the Transactions of the Entomological Society of London,[1] I was able to present the subject of patterns in a much more developed shape. What I now wish to record is mainly what I communicated to the annual meeting of the A. O. U. in 1904, but which the reporters failed to get, so that it remains, as yet, unpublished. It is this: It now proves to be the case that all patterns and colors, upon all animals whatsoever, except such as live in the dark, or are neither predatory nor preyed upon, are, *when seen against the background against which their enemy (or prey) would see them at the critical moment*, in expressibly *perfect pictures* of this background, and therefore obliteratively colored. The marvellous perfection of the scene thus painted on each aminal is, of course, only appreciable by painters. It is such that the different parts of any resplendent bird's costume, peacock, wood duck, or blue jay, make, when separated, and merely slightly rearranged, a scene of their habitat that defies, in its realism, all painters.

The one thing that has kept even artists from beginning to see this fact is that no one has perceived that obliterative coloration means *matching a certain background*, not a general resemblance to surroundings. This old phrase means actually nothing. For instance, a white heron and a brown frog may be in the *same surroundings*, yet the heron sees the brown frog against brown mud, while the frog sees the white heron against the *sky*! — the nearest match possible, and one which effaces the heron's telltale upper contours, especially when the sky is white, or at night. Till now, however, observers have regarded the frog and heron, and discussed them, from *men's* standpoint, and called *one* protectively colored, and one conspicuous. This principle is universal in nature.

My son and I are now sending to the press a book demonstrating my results up to now. Fortunately it *involves no theory* whatever, but is all shown to be susceptible of absolute occular proof. It does not *say* that patterns and countershading *exist to conceal animals*, but shows that they do always conceal them.

ABBOTT H. THAYER.

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[1] Protective Coloration in its Relation to Mimicry, Common Warning Colors, and Sexual Selection. Trans. Entomol. Soc. of London, 1903, Part IV, pp. 553–569. Dec., 1903.

## NOTES AND NEWS.

Dr. William LaGrange Ralph, a Member of the American Ornithological Union, died in Washington, D. C., on July 8, 1907, of a complication of organic heart and kidney lesions in the fifty-seventh year of his age. He leaves a widow, an adopted daughter, Katharine Louise, and two brothers, G. Fred Ralph and Henry Ralph. He was born in Holland Patent, N. Y., June 19, 1851, and remained there until 1863 when he moved with his parents to Utica. In the dozen years of early life spent among the fields and woods of his native home and surrounded on all sides by a rich and ever varying assortment of bird life, the seed of his future love for ornithology was sown and gradually ripened as time went on. He often spent the greater part of his vacations and holidays at Holland Patent with his grandfather, who, as an ardent sportsman and in a general way an interested observer of all birds, encouraged the boy by precept and example to look for the many secrets which Nature held in store for him. Here he began to watch the birds construct their nests and to levy an occasional egg from them to add to his rudimentary collection.

He received his preliminary education from the schools of Utica and Whitestone Seminary, and in 1879 completed his studies and secured his medical degree at the college of Physicians and Surgeons, Columbia University, New York City. Later in the same year he began to practice his profession in Utica, but owing to delicate health resulting from a weakened heart he gave up this exacting work and returned to a more quiet life. He evidently was glad of the opportunity to renew his research in ornithology which had been held somewhat in abeyance during his college life. Fortunately, being of independent means, he was able to devote unlimited time to study and to field work, which primarily was carried on among the rarer and more interesting birds of Oneida County and later was extended to much broader fields. Within a comparatively short time, through his own efforts and those of trained collectors, and by purchase, the foundation of a collection of eggs was formed which subsequently became one of the most valuable private collections in the country. During the summer much of his time was spent with the birds in the Northern woods, while in winter and spring the marshes and forests of Florida were explored in search of interesting nests and eggs.

When Major Bendire planned to write the 'Life Histories of North American Birds' he was well equipped, so far as western birds were concerned, but was sorely in need of reliable detailed information regarding the nesting habits of some of the rarer eastern species. This data in part, Doctor Ralph was able to furnish and in many places pages of almost literal quotation from his field notes may be found in this most valuable standard work. Major Bendire acknowledged in his introduction indebtedness for this material assistance.

Although Doctor Ralph gathered full notes and frequently was quoted

by others, so far as we know his only published papers were 'An Annotated List of the Birds of Oneida County, N. Y. and the Immediate Vicinity,' which was issued under joint authorship with Mr. Egbert Bagg of Utica, in 1886, and an addendum to this list published in 'The Auk' in 1890 (pp. 229–232).

After the death of Major Bendire in 1897 Doctor Ralph was made custodian of the egg collection of the National Museum, and in 1901 his title was changed to that of curator. From the very first when he began to associate with Major Bendire he took a deep interest in the Museum collection and from time to time made valuable donations of beautifully prepared and carefully identified eggs, aggregating upwards of 10,000 specimens. He also went to considerable trouble and expense in collecting mammals and other desiderata for the Museum, and on one occasion purchased a fine example of the extinct Philip Island parrot which was in danger of being sent abroad. He always was fond of studying the habits of wild creatures and of keeping them as pets. During the past few years he purchased and liberated in the Smithsonian grounds many gray squirrels for the purpose of giving pleasure to visitors and a show of wild life to this attractive spot. It was a familiar sight during cold wintry weather to see the Doctor hunting up his pets to furnish them with a liberal and needed supply of nuts or other food. A few days before his death, while in a very weakened condition, with great effort he went to his office, it is thought for the main purpose of seeing whether his pets there had had proper attention.

Although in delicate health Doctor Ralph seemed to look upon the bright side of life and was happiest when associating with or entertaining his chosen friends. He never tired talking over collecting or hunting experiences, and was most enthusiastic while listening to or giving details of some important capture or successful day in the field. He was unselfish, kind hearted and generous almost to a fault, and we feel that in his death the Union has lost a valuable member and his associates a devoted friend.—A. K. F.

The Seventh International Congress of Zoölogy held a six days' session (August 19–24, 1907), in Boston, putting into effect without material change the program announced in the first preliminary circular of the Executive Committee issued in 1906 (see Auk, XXIII, Oct. 1907, p. 486). There was a large attendance of foreign delegates and members, and the zoölogists of America were well represented, the registered attendance being about five hundred. The general meetings were held in Jordan Hall, New England Conservatory of Music, and the sectional meetings in the new buildings of the Harvard Medical School. President, and Chairman of the General Committee of the American Society of Zoölogists, Alexander Agassiz; General Secretary of the Permanent Committee of the International Zoölogical Congress, R. Blanchard, Paris; Secretary of the Congress, Samuel Henshaw. The arrangements for the work of the Congress

and for its entertainment were elaborate, and the weather was exceptionally favorable. On Monday evening a reception was tendered by the Local Committee at the Art Museum, through the courtesy of the Trustees; on Wednesday evening a reception was given by the President at the Hotel Somerset. The mornings were occupied with the sectional meetings, the general sessions being held in the afternoons, at which the business of the Congress was transacted, followed by addresses, including the address of the President, and addresses by distinguished delegates on subjects of wide interest. The week closed with an excursion on Saturday to Harvard University.

The Congress organized in ten Sections, as follows: I, Animal Behavior; II, Comparative Anatomy; III, Comparative Physiology; IV, Cytology and Heredity; V, Embryology and Experimental Zoölogy; VI, Entomology and Applied Zoölogy; VII, General Zoölogy; VIII, Palæozoölogy; IX, Systematic Zoölogy; X, Zoögeography and Thalassogeography. The names of these sections indicate how greatly changed has become the lines of zoölogical research during a single generation; of the 300 or more papers and addresses entered on the program, less than one third were listed under sections VII–IX. The attempt to organize a section of Ornithology (see Auk, XXIV, April, 1907, p. 239) failed through lack of response on the part of ornithologists, who, both abroad and at home, seemed to take little interest in the Congress. The eleven titles on the program relating to ornithology are: in Section I, J. P. Porter, A Comparative Study of Birds with respect to Intelligence and Imitation; J. E. Duerden, The Influence of Domestication on the Behavior of the Ostrich; F. H. Herrick, Organization of the Gull Community, a Study of the Communal Life of Birds. In Section II, W. A. Locy, The Fifth and Sixth Aortic Arches in Birds and Mammals. In Section IV, C. B. Davenport, Reversion in Poultry. In Section V, M. Blount, On the Cleavage and Formation of the Periblast and the Germ Wall in Pigeons; J. T. Patterson, On Gastrulation in Birds. In Section VII, S. A. Forbes, A Statistical Study of the Local Distribution and Ecology of Birds; C. W. Beebe, Geographic Variation in Birds, with special reference to Humidity. In Section VIII, C. H. Sternberg, *Hesperornis regalis*, the Royal Bird of the West. In Section X, F. M. Chapman, Remarks on the Geographical Origin of North American Birds. About sixty entries of "demonstrations, exhibits, etc.," were on exhibition during the Congress, including instruments, and apparatus, models, drawings, books, and preparations, illustrating special lines of research.

The Report of the International Commission on Nomenclature was unanimously adopted at the general session held on Friday, and is of general interest to systematic zoölogists. In addition to several recommendations in amplification of Articles 8, 14, 20 and 29, and several general rulings, covering 'The nature of a systematic name,' 'The status of publications dated 1758,' 'The status of certain names published as manuscript names,' and 'The status of certain pre-Linnæan names reprinted subse-

quent to 1757,' Article 30 of the International Code of Zoölogical Nomenclature, as adopted at the Berne Congress in 1904, was cancelled and a new Article 30 adopted in its place. Article 30 provides for the determination of types of originally typeless genera. The new Article 30 includes practically all of the provisions of the old Article 30, amplified and made more explicit, especially in respect to 'types by subsequent designation,' or types by designation of a first reviser, and also by incorporating most of the rules and recommendations published by Dr. Charles Wardell Stiles, U. S. A., in September, 1905.[1] The new Article 30 (for a copy of which we are indebted to the kindness of the secretary of the International Commission on Nomenclature, Dr. Stiles), is herewith given in full:

"Art. 30.— The designation of type species of genera should be governed by the following rules (*a–g*), applied in the following order of precedence:

"I. Cases in which the generic type is accepted *solely* upon the basis of the original publication.

"(*a*) When in the original publication of a genus, one of the species is definitely designated as type, this species shall be accepted as type regardless of any other considerations. (Type by original designation.)

"(*b*) If, in the original publication of a genus, *typicus* or *typus* is used as a *new* specific name for one of the species, such use shall be construed as 'type by original designation.'

"(*c*) A genus proposed with a single original species takes that species as its type. (Monotypical genera.)

"(*d*) If a genus, without originally designated (see *a*) or indicated (see *b*) type, contains among its original species one possessing the generic name as its specific or subspecific name, either as valid name or synonym, that species or subspecies becomes *ipso facto* type of the genus. (Type by absolute tautonomy.)

"II. Cases in which the generic type is not accepted *solely* upon the basis of the original publication.

"(*e*) The following species are excluded from consideration in selecting the types of genera:

"(*α*) Species which are not included under the generic name at the time of its original publication.

"(*β*) Species which were *species inquirendæ* from the standpoint of the author of the generic name at the time of its publication.

"(*γ*) Species which the author of the genus doubtfully referred to it.

"(*f*) In case a generic name without originally designated type is proposed as a substitute for another generic name, with or without type, the type of either, when established, becomes *ipso facto*, type of the other.

"(*g*) If an author, in publishing a genus with more than one valid

[1] The International Code of Zoölogical Nomenclature as applied to Medicine. Hygienic Laboratory, Bulletin No. 24. Washington: Government Printing Office, 1905. 8vo, pp. 50.

species, fails to designate (see *a*) or to indicate (see *b*, *d*) its type, any subsequent author may select the type, and such designation is not subject to change. (Type by subsequent designation.)

"The meaning of the expression 'select a type' is to be rigidly construed. Mention of a species as an illustration or example of a genus does not constitute a selection of a type.

"III. Recommendations.— In selecting types by subsequent designation, authors will do well to govern themselves by the following recommendations:

"(*h*) In case of Linnæan genera, select as type the most common or the medicinal species. (Linnæan rule,[1] 1751.)

"(*i*) If a genus, without designated type, contains among its original species one possessing as a specific or subspecific name, either as valid name or synonym, a name which is virtually the same as the generic name, or of the same origin or same meaning, preference should be shown to that species in designating the type, unless such preference is strongly contraindicated by other factors. (Type by virtual tautonomy). Examples: *Bos taurus*, *Equus caballus*, *Ovis aries*, *Scomber scombrus*, *Sphærostoma globiporum*; contraindicated in *Dipetalonema* (compare species *Filaria dipetala*, of which only one sex was described, based upon one specimen and not studied in detail).

"(*j*) If the genus contains both exotic and nonexotic species from the standpoint of the original author, the type should be selected from the nonexotic species.

"(*k*) If some of the original species have later been classified in other genera, preference should be shown to the species still remaining in the original genus. (Type by elimination.)

"(*l*) Species based upon sexually mature specimens should take precedence over species based upon larval or immature forms.

"(*m*) Show preference to species bearing the name *communis*, *vulgaris*, *medicinalis*, or *officinalis*.

"(*n*) Show preference to best described, best figured, best known, most easily obtainable species, or one of which a type specimen can be obtained.

"(*o*) Show preference to a species which belongs to a group containing as large a number of the species as possible. (De Candolle's rule.)

"(*p*) In parasitic genera, select if possible a species which occurs in man or some food animal, or in some very common and widespread host species.

"(*q*) All other things being equal, show preference to a species which the author of the genus actually studied at or before the time he proposed the genus.

"(*r*) All other things being equal, page precedence should obtain in selecting a type.

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[1] "Si genus receptum, secundum jus naturæ et artis, in plura dirimi debet, tum nomen antea commune manebit vulgatissimæ et officinali plantæ."

"(*s*) In case of writers who habitually place a certain leading or typical species first as 'chef de file,' the others being described by comparative reference to this, this fact should be considered in the choice of the type species.

"(*t*) In case of those authors who have adopted the 'first species rule' in fixing types, the first species named by them should be taken as types of their genera."

The secretary in presenting the report of the Commission, stated that the Code, as now constituted, would probably cover 90 % of the cases that may arise, and would in all probability prove satisfactory to 90 % of zoölogists.

The Congress adjourned on Friday, to meet in Gratz in 1910, under the presidency of Professor Ludwig von Graff. On Sunday Woods Hole was visited *en route* to New York, the members of the Congress arriving in New York Monday morning and remaining through the week. The Congress was received on Monday by the trustees and officers of the Department of Zoölogy of Columbia University; on Tuesday as guests of the trustees and officers of the American Museum of Natural History; on Wednesday the Congress visited Cold Spring Harbor, as guests of the Brooklyn Institute of Arts and Sciences and the Carnegie Station for Experimental Evolution; Thursday was devoted to visits to the New York Zoölogical Park and Aquarium; on Thursday an excursion was made to West Point and Castle Rock, the residence of Professor Henry Fairfield Osborn, as guests of Professor Osborn. On Saturday many of the members accepted invitations from the trustees of Yale University and Princeton University to visit New Haven and Princeton. During the following week the foreign members and delegates visited Philadelphia, Washington, Niagara Falls, and Toronto.

The chief advantage of such gatherings is, of course, the opportunity thus afforded of bringing together for social intercourse a large number of investigators who otherwise may never know each other except through correspondence or published writings. In the present case many of the foreign delegates made their first acquaintance with American scientific institutions, in which they found much of interest and not a little to admire.

The Twenty-fifth Annual Congress of the American Ornithologists' Union will be held in Philadelphia, beginning on the evening of Monday, December 9, 1907. The evening session will be for the election of officers and members and for the transaction of routine business. Tuesday and the following days of the session will be for the presentation and discussion of scientific papers, and will be open to the public. Members intending to present communications are requested to forward the titles of their papers to the Secretary, Mr. John H. Sage, Portland, Conn., so as to reach him not later than December 5.

# INDEX TO VOLUME XXIV.

[New generic, specific, and subspecific names are printed in **heavy-faced** type.]

## ERRATA.

Page 17, line 31, for **Haliaëtus** read **Haliæetus**.
" 111, " 14, for *leucurus* read *leucura*.
" 133, " 24, for one grain of read one eighth ounce of.
" 269, " 25, for **Claucidium** read **Glaucidium**.
" 328, " 22, for *pusilia* read *pusilla*.
" 338, " 34, for *cærula* read *cærulea*.
" 365, " 15, for June 8, 1907, read June 7, 1907.
" 433, " 31, for **Coturniculus sandwichensis passerinus** read **Coturniculus savannarum passerinus.**

On map of Dawson Co., Montana (facing p. 244) for Scale, 12 miles = 1 inch read Scale, 18 miles = 1 inch.

On map of Custer Co., Montana (facing p. 244) for Scale, 12 miles = 1 inch read 19.4 miles = 1 inch.